# Wireless Universal Services

## Wireless State-of-the-Art Equipment Enables Carriers to Offer More Service Options

| Network Infrastructure | Wireline | Wireless |
|---|---|---|
| Switching | Some Electro/Mechanical | State-of-the-Art Digital |
| Local Loops | Some Multi-Party Lines<br>Some Older Limited Capability Loops | Dynamic Assignment<br>Analog and Digital |

# Wireless Universal Services

## Wireless Carriers are Capable of Providing Services Not Offered by Some Telcos Serving Rural Areas

| Network Services Offered | OPASTCO Wireline | Western Wireless*** |
|---|---|---|
| Voicemail | 47.5%** | 100% |
| EAS | 39.1%* | 100% |
| TouchTone | 64.6%* | 100% |
| Single Line Service | 96.5%* | 100% |
| 911 Service | 54.4%* | 100% |

**Keeping Rural America Connected: Costs and Rates in the Competitive Era, OPASTCO (1994)*
***OPASTCO Internet Site: http://www.opastco.org/PRODSRVC.html*
****Western Wireless services which we believe are representative of all wireless carriers*



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# Wireless Universal Services

## Wireless Carriers Utilize Extended Local Calling Areas (LCAs)

| | Wireline | Western Wireless |
|---|---|---|
| Montana LCAs | Numerous* | 1 |
| North Dakota LCAs | Numerous | 1 |

* In Montana, for example, U S West has 16 extended LCAs and there are 18 independent LECs with their own LCAs.

# Wireless Universal Services

- Mobility is Vital in Sparsely Populated Areas
  - Long Distances Between Towns
  - Low Density of Public Pay Phones
  - Rural Commerce Depends More on Mobility
- Access to Emergency Services is More Important

# Lower USF Costs

## Cost is Inversely Related to Density

| State | Population Density (Per Sq. Mile) | Wireline Subsidy for Resident Lines* | Wireline Subsidy Per Population | Wireline Subsidy for All Lines* | Wireline Subsidy Per Population |
|---|---|---|---|---|---|
| North Dakota | 9.3 | $118.0 | $185 | $152.9 | $239 |
| Montana | 5.5 | $149.0 | $186 | $183.1 | $229 |
| Nevada | 10.9 | $42.3 | $35 | $51.6 | $43 |
| Wyoming | 4.7 | $51.7 | $114 | $60.3 | $133 |
| Texas | 64.9 | $400.7 | $24 | $466.0 | $27 |
| All States | 70.3 | $4,965.1 | $20 | $5,560.9 | $22 |

**Subsidies, in millions, based upon results of HAI Wireline Cost Model and benchmark revenues of $31 per month for residential lines and $51 per month for business lines.*



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# Lower USF Costs

## Wireless Cost is Substantially Lower in Rural Areas

| State | Average Line Density | Wireless Cost Per Line* | Wireline Cost Per Line |
|---|---|---|---|
| Montana - Urban | 59.04/sq. mile | $56.31/mo. | $22.22/mo. |
| Montana - Rural | 5.77/sq. mile | $92.90/mo. | $188.84/mo. |
| North Dakota - Urban | 41.48/sq. mile | $58.71/mo. | $22.74/mo. |
| North Dakota - Rural | 3.90/sq. mile | $77.35/mo. | $178.21/mo. |

** Based upon preliminary HAI wireless cost model results.*



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# Lower USF Costs

## Potential Subsidy Savings Using Wireless Technology

| | |
|---|---|
| Estimated Subsidy for Wireline Carriers | $5,560,924,012 |
| Estimated Subsidy Using Wireless Technology | $2,936,667,737 |
| Estimated Potential Subsidy Savings (48%) * | $2,624,256,275 |

** The overall subsidy is based upon HAI wireline cost model and the preliminary results of the HAI wireless cost model for Montana and North Dakota and estimated for the other states*



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# Lower USF Costs

## Wireless Will Greatly Reduce Subsidies

| | North Dakota | Montana |
|---|---|---|
| Wireline USF Subsidies | | |
| Federal Share | $29.5 | $37.3 |
| State Share | $88.5 | $111.7 |
| Total | $118.0 | $149.0 |
| Wireless USF Subsidies | | |
| Federal Share | $16.7 | $18.5 |
| State Share | $50.3 | $55.5 |
| Total | $67.0 | $74.0 |
| Total Savings with Wireless Technology | $51.0 | $75.0 |

* *Subsidies in millions*



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# Public Interest Benefits of Wireless Solution

- Greater Competition Especially in Rural Areas
- Availability of Additional Services
- Rapid Delivery of Additional Services to the Public
- Bring Service to Unserved Areas
- Lower Cost of Subsidies at Federal and State Level

# Public Interest Benefits of Wireless Solution

## Competition Exists in the Residential Wireless Market

| | # of Wireless Carriers* | # of Landline Carriers |
|---|---|---|
| Texas | 4 | 1 |
| Oklahoma | 5 | 1 |
| Colorado | 5 | 1 |
| Kansas | 5 | 1 |
| Nebraska | 3 | 1 |
| Idaho | 2 | 1 |
| Nevada | 3 | 1 |
| North Dakota | 4 | 1 |
| South Dakota | 2 | 1 |
| Montana | 3 | 1 |
| Wyoming | 2 | 1 |
| Minnesota | 4 | 1 |
| Missouri | 4 | 1 |
| New Mexico | 4 | 1 |
| Utah | 3 | 1 |

* *Number of operating competing carriers.*



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# Challenges and Obstacles

- Establishing and Maintaining a Competitive Universal Service System in Territories Served by Rural Telcos
- Establishing State Universal Service Rules that Do Not Disadvantage Wireless Carriers
- Maintaining a Competitively-Neutral Universal Service System that takes into Account the Unique Advantages of Wireless

# Federal/State Action Items

- Universal Service Support based upon Most Cost-Effective Technology

- Allow Consumers in Rural Areas to Immediately Choose a Competitive Carrier for Universal Service
  - Beginning January 1, 1999, Carriers Serving Rural Areas should Receive Support based upon Forward-Looking Costs

# Federal/State Action Items

- Allow Consumer to Choose the Universal Service Offering that Best Suits Their Needs
  - No Need to Predetermine the Rate and Usage Level
- FCC Needs to Take Action if States Adopt Unreasonably Discriminatory Universal Service Requirement

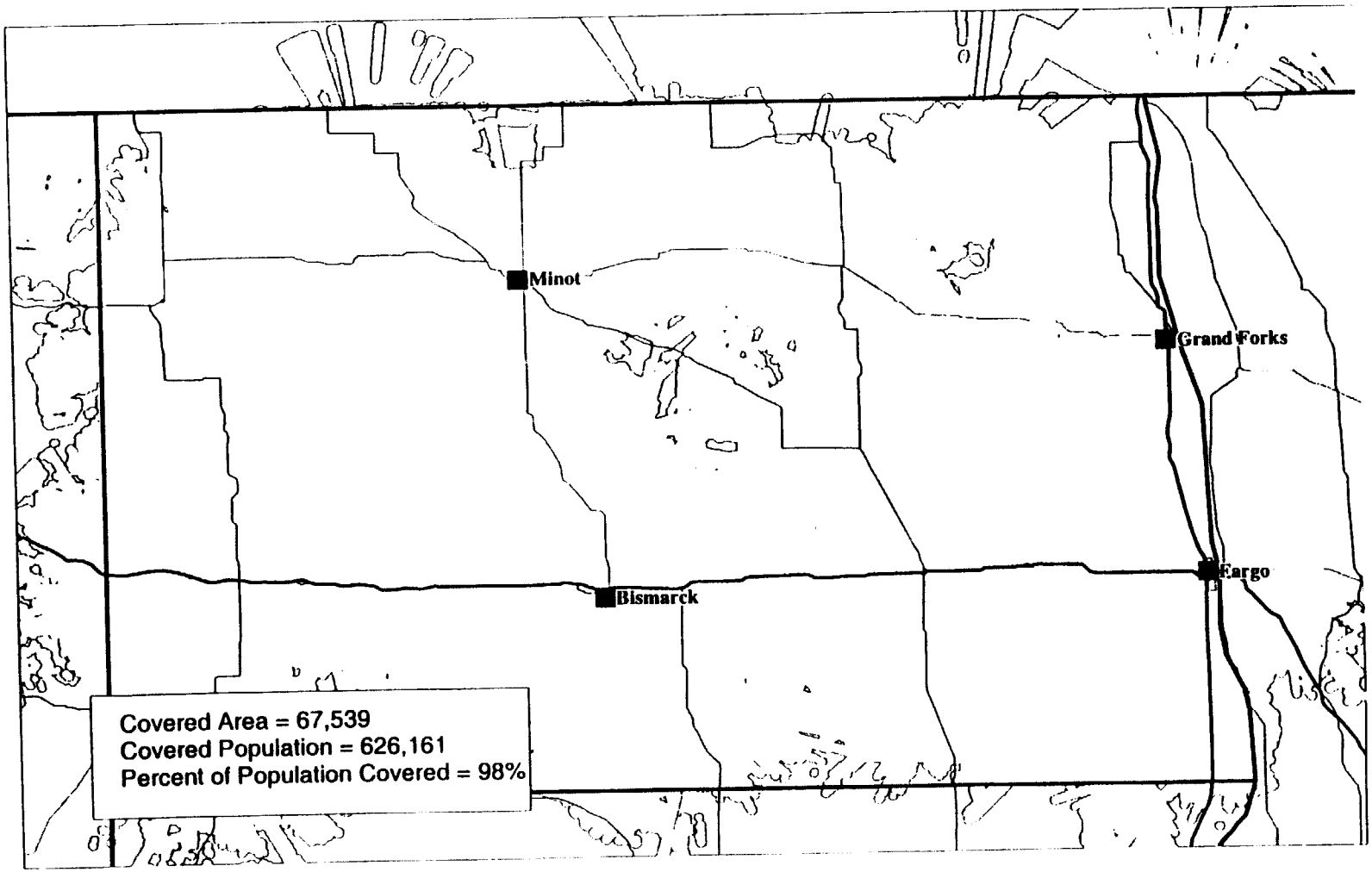
# Appendix

# Universal Service Opportunities

## Pay Phones Today

| State | Pay Phone Lines | Pay Phones/Sq. Mile |
|---|---|---|
| Massachusetts | 46,323 | 5.91 |
| Texas | 102,512 | .30 |
| Nevada | 6,893 | .06 |
| North Dakota | 2,621 | .04 |
| Wyoming | 3,628 | .04 |
| Montana | 4,495 | .03 |

# North Dakota Cellular Coverage

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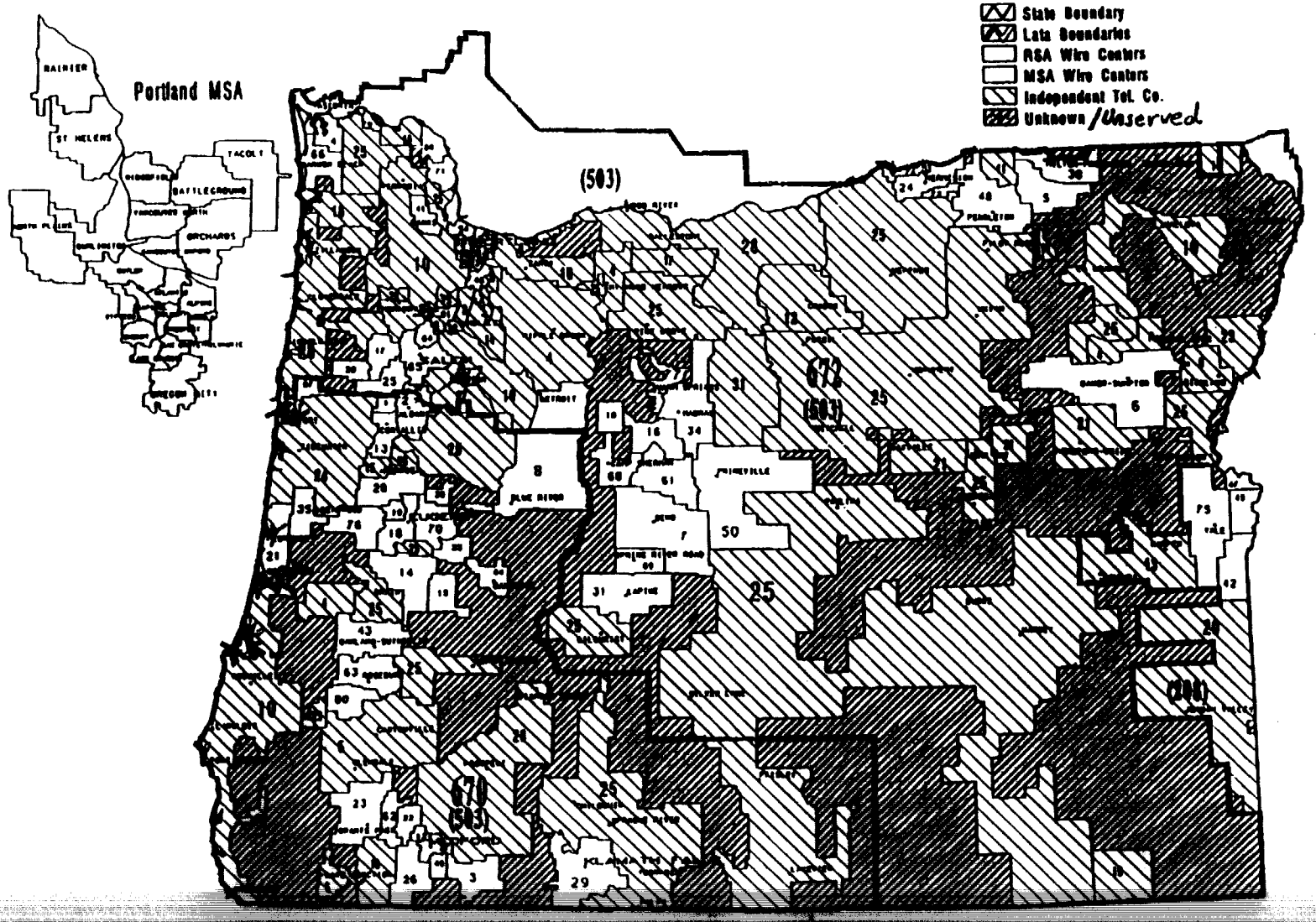
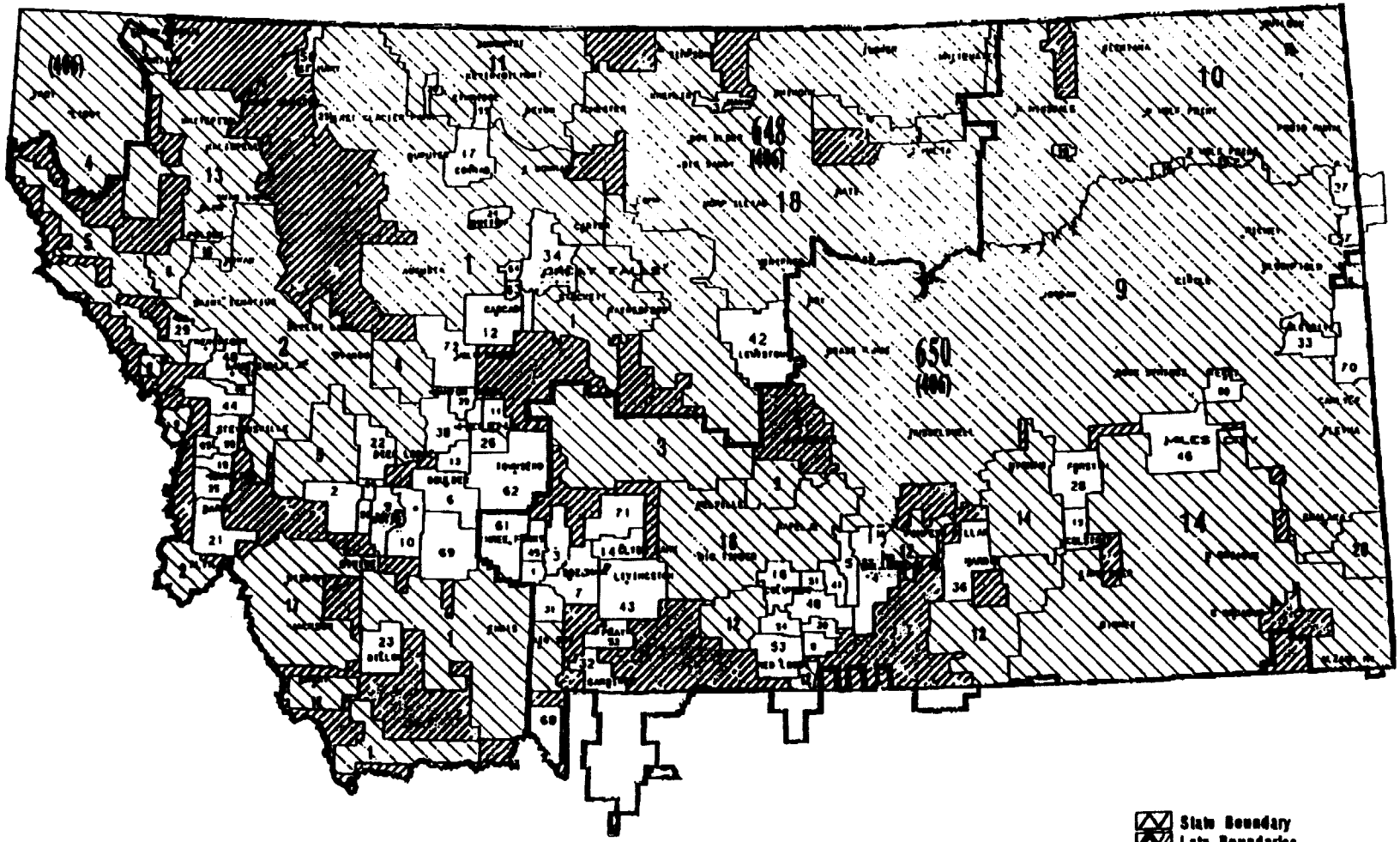
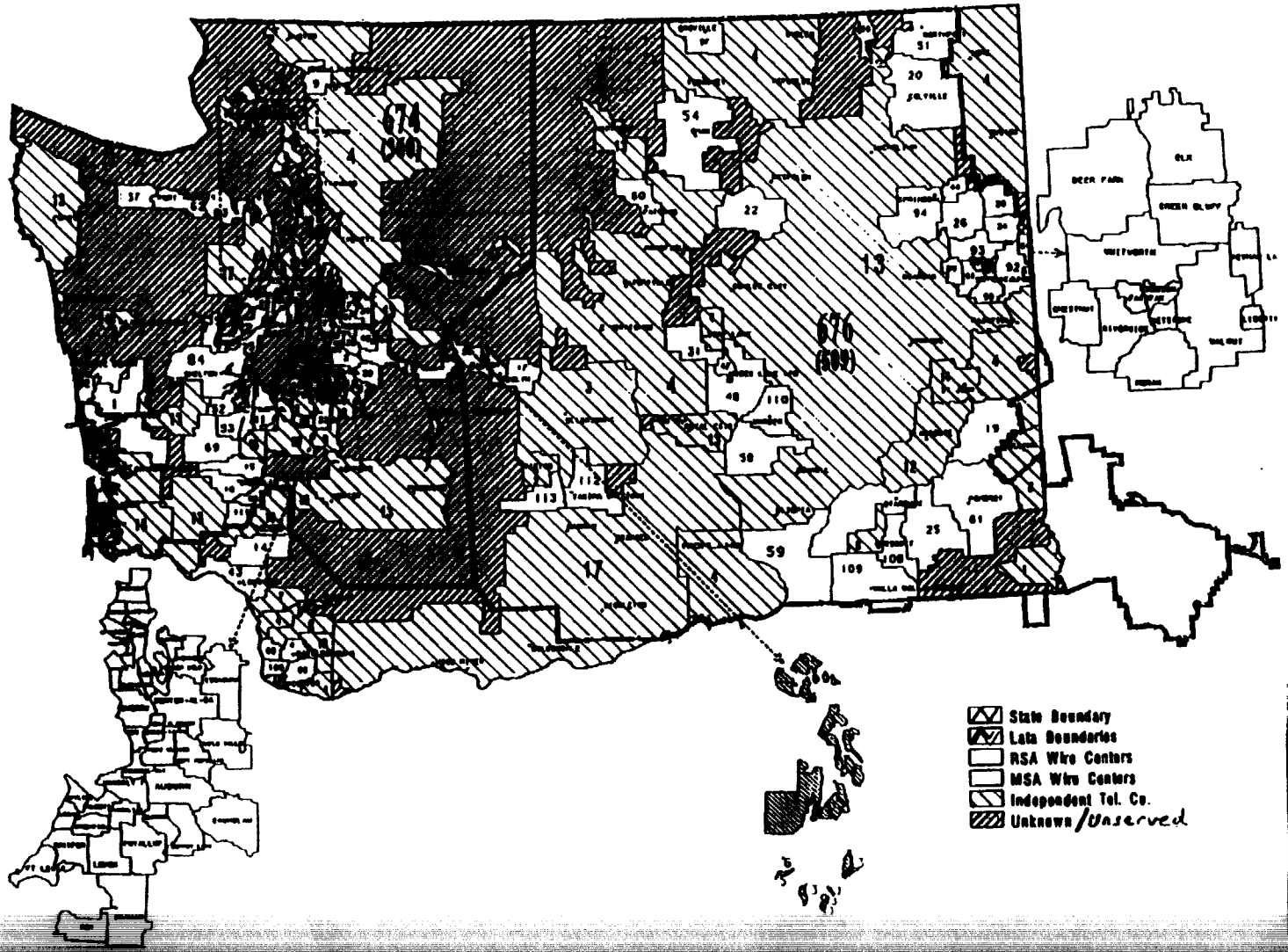
# US West - Oregon LATA



# US West - Montana LATA



# US West - Washington LATA



# US West - Utah LATA